

Amendments to the Claims

This listing of claims will replace all prior listings of claims in the application.

Listing of Claims:

1. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) for use on a milking cup of a milking apparatus, comprising

a head part (3, 103, 203, 303, 403, 503, 603) having provided thereon a sealing lip (30, 130, 230, 330, 430, 530, 630) that forms an insertion opening (49, 149, 249, 349, 449, 549, 649) for a teat (190),

a holding edge (8, 108, 208, 308, 408, 508, 608) for grasping a milking cup sleeve (2, 102, 202, 302, 402, 502, 602),

a suction connecting piece (4, 104, 204, 304, 404, 504, 604) connected to the head part (3, 103, 203, 303, 403, 503, 603),

a planar teat bearing section (28, 128, 228, 328, 428, 528, 628) which is formed on the sealing lip (30, 130, 230, 330, 430, 530, 630) provided on the head part (3, 103, 203, 303, 403, 503, 603) and which defines the insertion opening (49, 149, 249, 349, 449, 549, 649),

an adhesion element that improves the adhesion between the teat (190) and the teat rubber (1, 100, 200, 301, 401, 501, 601) without affecting the milking process,

characterized in that

the adhesion element comprises a pre-stressing element (240, 431, 520) with an annular element that exerts a radially effective force on the planar teat bearing section (228, 428, 528), said annular element (520) being provided with a folding mechanism by means of which said annular element (520) can be changed over between two cross-sections.

2. (Original) A teat rubber according to claim 1, characterized in that the pre-stressing element (431, 520) is implemented such that it is able to cause a reduction of the radius of the insertion opening (49, 149, 249, 349, 449, 549, 649).

3. (Original) A teat rubber according to claim 1, characterized in that the annular element is produced from a resilient plastic material, preferably rubber, or from metal, preferably a spring steel.

4. (Currently Amended) A teat rubber according to claim 1 ~~or 3~~, characterized in that the annular element (431b, 520) is arranged on an inner wall of a cavity (423, 522) in the head part (403, 503) of the teat rubber (401, 501).

5. (Currently Amended) A teat rubber according to claim 1, ~~3 or 4~~, characterized in that a boundary of the planar teat bearing section (528) has formed thereon a first projection (524) which is directed towards the cavity (522) and which prevents the annular element (520) from slipping off.

6. (Original) A teat rubber according to claim 5, characterized in that the inner wall of the cavity (522) has formed thereon a second projection (521) adjacent said first projection (520) in such a way that the space between said first and second projections (520, 521) forms a groove which accommodates the annular element (520).

7. (Original) A teat rubber according to claim 1, characterized in that the annular element (431) is arranged on an outer wall of the head part (403) of the teat rubber (401).

8. (Original) A teat rubber according to claim 1, characterized in that the folding mechanism comprises hinge portions (523) so that a subarea of the annular element (520) can change between a folded and an unfolded condition, when pressure is radially applied to the annular element (520).

9. (Original) A teat rubber according to claim 7, characterized in that the outer wall of the head part (403) comprises at least two depressions with different outer diameters in which the annular element (431) can be arranged in a displaceable manner so that the cross-section of the insertion opening (449) can be varied.

10. (Original) A teat rubber according to claim 1, characterized in that the pre-stressing element comprises resilient lamellae (240) which are arranged in the cavity in the head part (203).

11. (Original) A teat rubber according to claim 10, characterized in that the lamellae (240a) are arranged radially.

12. (Original) A teat rubber according to claim 10, characterized in that the radially arranged lamellae (240b) are implemented such that they comprise a Y-shaped bifurcation in the radial direction.

13. (Currently Amended) A teat rubber according to claim 1, ~~one of the preceding claims~~, characterized in that sub-areas of the planar teat bearing section (28, 128, 228, 328, 428, 528, 628) are movable in a radial direction (R).

14. (Currently Amended) A teat rubber according to claim 1, ~~one of the preceding claims~~, characterized in that sub-areas of the planar teat bearing section (28, 128, 228, 328, 428, 528, 628) are movable with respect to an angular position ($\Theta 1$, $\Theta 2$) relative to the sealing lip (30, 130, 230, 330, 430, 530, 630).

15. (Currently Amended) A teat rubber according to claim 14, ~~one of the preceding claims~~, characterized in that the movability of the subareas of the planar teat bearing section (28, 128, 228, 328, 428, 528, 628) relative to one another and relative to the sealing lip (30, 130, 230, 330, 430, 530, 630) is achieved by the use of a soft, resilient material.

16. (Original) A teat rubber according to claim 15, characterized in that the elastic material is latex or silicone rubber.

17. (Currently Amended) A teat rubber according to claim 14, ~~one of the claims 13 to 16~~, characterized in that the movability of the subareas of the planar teat bearing section (28) is achieved by overlapping segments (12b).

18. (Currently Amended) A teat rubber according to claim 14, ~~one of the claims 13 to 17~~, characterized in that the subareas of the planar teat bearing section (28) are resiliently interconnected by overlapping segments (12a), whereby the movability of the subareas relative to one another is achieved.

19. (Currently Amended) A teat rubber according to claim 13, ~~one of the claims 13 to 18~~, characterized in that the subareas of the planar teat bearing section (28) are interconnected by a constriction and/or a portion of reduced material thickness, whereby the movability of the subareas relative to one another is achieved.

20. (Currently Amended) A teat rubber according to claim 13, ~~one of the claims 13 to 18~~, characterized in that the subareas of the planar teat bearing section (28) are interconnected by a section whose material properties have been changed, whereby the movability of the subareas relative to one another is achieved.

21. (Currently Amended) A teat rubber according to claim 13, ~~one of the claims 13 to 18~~, characterized in that the subareas of the planar teat bearing section (28) are interconnected through portions consisting of a material that is softer than the material of said subareas.

22. (Currently Amended) A teat rubber according to claim 1, ~~one of the preceding claims~~, characterized in that the head part (403) has predetermined bending points (432, 433, 434, 435), said predetermined bending points (432, 433, 434, 435) leading to a deformation of the head part (403), when a pressure difference between the pulsation chamber (410) and the surroundings is generated.

23. (Original) A teat rubber according to claim 22, characterized in that the predetermined bending points (432, 433, 434, 435) are arranged such that the teat bearing section (428) on the head part (403) is adapted to be moved alternately towards and away from the pulsation chamber (423) in accordance with a change of pressure.

24. (Currently Amended) A teat rubber according to claim 1, ~~one of the preceding claims~~, characterized in that the teat bearing section (328) is releasably connected to the head part (303).

25. (Original) A teat rubber according to claim 24, characterized in that the releasable teat bearing section (328) is implemented as a resilient formed part having a shape

similar to that of a hollow cylinder and including in the outer surface thereof a circumferentially extending indentation (313) which is adapted for engagement with the sealing lip (330).

26. (Original) A teat rubber according to claim 25, characterized in that an inner width of the outer, circumferentially extending indentation (313) exceeds the thickness of the sealing lip (330) so that a movable connection can be established between the teat bearing section (312) and the sealing lip (330).

27. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 1, ~~one of the preceding claims~~, characterized in that a part of the insertion opening (49, 149, 249, 349, 449, 549, 649) has a conically tapering surface (625), which conically tapers towards the inner side of the teat rubber (1, 100, 200, 301, 401, 501, 601) in such a way that the inner annular fold (Fuerstenberg'sche Venenring) (150) located on the base of the teat cannot come into contact with the teat rubber (1, 100, 200, 301, 401, 501, 601) and that pressure cannot be applied thereto, not even if the milking cup should shift in the direction of the udder.

28. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 27, characterized in that the boundary of a wide opening of the conically tapering insertion opening (49, 149, 249, 349, 449, 549, 649) is followed by an udder bearing surface (670) by means of which the teat (190) and parts of the udder with the inner annular fold (150) can be prevented from being drawn into the teat rubber (1, 100, 200, 301, 401, 501, 601) by a milking vacuum, when the udder shrinks during the milking process, so that said inner annular fold (150) cannot enter the narrow, pressure-exerting area of the teat rubber (1, 100, 200, 301, 401, 501, 601).

29. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 27, ~~or 28~~, characterized in that, when seen in a cross-sectional view, the conically tapering surface (625) of the conically tapering insertion opening (49, 149, 249, 349, 449, 549, 649) is concave, convex or linear.

30. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 28, ~~or 29~~, characterized in that a transition (640) between the conically tapering surface (625) and the planar teat bearing section (628) and the udder bearing surface (670), respectively, is implemented in a hingelike manner.

31. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 30, characterized in that the hingelike transition (640) between the conically tapering surface (625) and the planar teat bearing section (628) and the udder bearing surface (670), respectively, comprises a portion of reduced material thickness, an indentation or a variation of the material properties in comparison with the properties of the adjoining material, so that the transition (640) will assume hingelike properties.

32. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 1, ~~one of the claims 1 to 31~~, characterized in that the adhesion means is formed in that at least a part of the planar teat bearing section (28, 128, 228, 328, 428, 528, 628) and/or of the inner surfaces of the suction connecting piece (4, 104, 204, 304, 404, 504, 604) have cushioned surfaces.

33. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 32, characterized in that the cushioned surface consists of a foamed elastomer.

34. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 33, characterized in that the foamed elastomer is a foam silicone.

35. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 33 or 34, characterized in that the foamed elastomer is sprayed onto the surface of the component in question.

36. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 33, ~~or 34~~, characterized in that the whole planar teat bearing section (28, 128, 228, 328, 428, 528, 628) and/or the suction connecting piece (4, 104, 204, 304, 404, 504, 604) consist of the foamed elastomer.

37. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 32, ~~one of the claims 32 to 36~~, characterized in that the cushioned surfaces are implemented as cushioned pockets.

38. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 32, characterized in that the cushioned surface is a fluid-filled pad.

39. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim ~~37 or 38~~, characterized in that the cushioned pocket or the fluid-filled pad is a replaceable insert.

40. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) for use on a milking cup of a milking apparatus, comprising

a head part (3, 103, 203, 303, 403, 503, 603) having provided thereon a sealing lip (30, 130, 230, 330, 430, 530, 630) that forms an insertion opening (49, 149, 249, 349, 449, 549, 649) for a teat (190),

a holding edge (8, 108, 208, 308, 408, 508, 608) for grasping a milking cup sleeve (2, 102, 202, 302, 402, 502, 602),

a suction connecting piece (4, 104, 204, 304, 404, 504, 604) connected to the head part (3, 103, 203, 303, 403, 503, 603) as well as

a planar teat bearing section (28, 128, 228, 328, 428, 528, 628) which is formed on the sealing lip (30, 130, 230, 330, 430, 530, 630) provided on the head part (3, 103, 203, 303, 403, 503, 603) and which defines the insertion opening (49, 149, 249, 349, 449, 549, 649),

a part of said insertion opening (49, 149, 249, 349, 449, 549, 649) conically tapering towards the inner side of the teat rubber (1, 100, 200, 301, 401, 501, 601) in such a way that the inner annular fold (Fuerstenberg'sche Venenring) (150) located on the base of the teat cannot come into contact with the teat rubber (1, 100, 200, 301, 401, 501, 601) and that pressure cannot be applied thereto, not even if the milking cup should shift in the direction of the udder,

characterized in that,

when seen in a cross-sectional view, a conically tapering surface (625) of the conically tapering insertion opening (49, 149, 249, 349, 449, 549, 649) is concave, convex or linear, and

that a transition (640) between the conically tapering surface (625) and the planar teat bearing section (628) and the udder bearing surface (670), respectively, is implemented in a hingelike manner.

41. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 40, characterized in that the boundary of a wide opening of the conically tapering insertion opening (49, 149, 249, 349, 449, 549, 649) is followed by the udder bearing surface (670) by means of which the teat (190) and parts of the udder with the inner annular fold (150) can be prevented from being drawn into the teat rubber (1, 100, 200, 301, 401, 501, 601) by a milking vacuum, when the udder shrinks during the milking process, so that said inner annular fold (150) cannot enter the narrow, pressure-exerting area of the teat rubber (1, 100, 200, 301, 401, 501, 601).

42. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 40, characterized in that the hingelike transition (640) between the conically tapering surface (625) and the planar teat bearing section (628) and the udder bearing surface (670), respectively, comprises a portion of reduced material thickness, an indentation or a variation of the material properties in comparison with the properties of the adjoining material, so that the transition (640) will assume hingelike properties.

43. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 40, ~~one of the claims 40 to 42~~, characterized in that at least a part of the planar teat bearing section (28, 128, 228, 328, 428, 528, 628) and/or of the inner surfaces of the suction connecting piece (4, 104, 204, 304, 404, 504, 604) have cushioned surfaces.

44. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 43, characterized in that the cushioned surface consists of a foamed elastomer.

45. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 44, characterized in that the foamed elastomer is a foam silicone.

46. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 44, ~~or 45,~~ characterized in that the foamed elastomer is sprayed onto the surface of the component in question.

47. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 44, ~~or 45,~~ characterized in that the whole planar teat bearing section (28, 128, 228, 328, 428, 528, 628) and/or the suction connecting piece (4, 104, 204, 304, 404, 504, 604) consist of the foamed elastomer.

48. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 43, ~~one of the claims 43 to 47,~~ characterized in that the cushioned surfaces are implemented as cushioned pockets.

49. (Original) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 43, characterized in that the cushioned surface is a fluid-filled pad.

50. (Currently Amended) A teat rubber (1, 100, 200, 301, 401, 501, 601) according to claim 48 ~~or 49,~~ characterized in that the cushioned pocket or the fluid-filled pad is a replaceable insert.